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Remarks

Claims 1-33 and 36-39 are present in this application. Claims 34 and 35 have been cancelled. Claims 6, 13, 15, 17 and 24 have been withdrawn from consideration resulting from applicant's election of species following a restriction requirement. Claims 1, 2, and 7-11 are again presented for examination.

Applicants acknowledge with appreciation the allowance of Claims 25-33 and the indication of the allowability of Claims 3-5, 12, 14, 16, 18-23 and 36-39 suitably rewritten.

Applicants' pending Claims 1, 2, and 7-11 again stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Murray et al* in view of *Maly et al*. This rejection is again respectfully traversed.

It is respectfully submitted that the examiner has reasserted the previous rejection without responding to applicants' reasons and authority showing the impropriety of the rejection.

Applicants respectfully traverse the following conclusions made in rejecting applicants' claims: (1) that it would have been obvious to combine teachings of the references as suggested by the examiner, (2) that the structure resulting from the proposed combination of teachings would respond to applicants' claims, (3) that such a resulting structure would be suitable for achieving the intended purposes of the inventors of either of the two reference devices, (4) that there is a teaching or suggestion in either of the references to make the combination proposed by the examiner, (5) that a substantially unrestricted flow passage extends through the *Maly et al* device, (6) that the intended use of an unrestricted flow passage between the valves has little, if any, patentable weight in the apparatus of applicants' Claim 1, (7) that the collar containing the check valve in *Maly et al* may replace the entire portion of the collar of *Murray et al*, (8) that

replacement of the collars as suggested by the examiner would traverse the argument that the valve would be placed in the sleeve of *Murray et al* or the ports would not align if the sleeve of *Maly et al* were placed in the apparatus of *Murray et al*, and (9) that the motivation to combine the two references can be gleaned from the knowledge generally available to one of ordinary skill the art.

Applicants' Claim 1 is directed to a cementing collar that admits fluid into the collar through a first valving when the external pressure is greater than the internal pressure and allows fluid to flow from the collar through a second valving when the internal pressure is greater than the external pressure with a substantially unrestricted flow passage provided between the first and second valving for permitting forward circulation of fluid through the collar.

A cementing collar having the structure defined by Claim 1 has the capability of initially functioning as a self-filling cementing collar as it is being lowered into the well, thereafter, functioning to circulate fluids through the cementing collar and subsequently, reinitiating the self-filling function as the collar is lowered further into the well.

Neither of the cited references discloses the structure recited in applicants' Claim 1 and neither of the cited references has the functionality of a cementing collar such as that defined by applicants' Claim 1. Both of the cited references are concerned exclusively with the function of automatically filling the well pipe as it is lowered into a fluid filled well.

Circulation in either the *Murray et al* or *Maly et al* devices is intended to be established only once, and that is when the well pipe has been lowered to that point in the well at which the cement is to be introduced. Once circulation has been established in either of the prior art devices, the self-filling function of such devices is no longer operative.

When the teachings of the two prior art references are combined in an attempt to meet the limitations of applicants' Claim 1, the combination is being made in a manner taught only by applicants' disclosure. If the combination of the two teachings is made in a manner suggested or taught only by one or both of the prior art references, the resulting combination would, of absolute necessity, function as a device that lacks the capability to resume self-filling after circulation is initiated. The proposed combination structure --as suggested only by the teachings of the references-- would not meet applicants' Claim 1.

The examiner contends that *Maly et al*, at numeral 34, describes a flow passage passing through the collar that is substantially unrestricted. It is respectfully noted, however, that passage 34 is in fact one multiple of restricted opening passages with each passage expressly described as being a "relief passage". See column 2, line 55 *et seq.* Thus, rather than being a substantially unrestricted flow passage, the passages 35 are in fact purposely restricted passages that are small enough to maintain a pressure differential across the sleeve partition 21, which permits a downward shifting force on the sleeve as fluids pass through the relief passages 35.

The examiner contends that the unrestricted flow between the valves has little, if any, patentable weight in the apparatus of Claim 1. It is respectfully submitted, however, that the claim limitation is directed to the very essence of the difference between a structure such as described by *Maly et al* and that such as claimed in applicants' Claim 1. Applicants' Claim 1 calls for a substantially unrestricted flow passage between the first and second one-way flow valving for permitting forward circulation of fluid through the collar. Forward circulation cannot be accomplished through the restricted flow passages 34 of the *Maly et al* device. In fact, forward circulation through the *Maly et al* device requires rupturing the flow passage diaphragm

32, leaving the sleeve partition flow passage 30 unobstructed for the forward circulation required in the impending cement operation. See column 3, lines 74 *et seq* of *Maly et al.*

Neither *Maly et al* nor *Murray et al* teach initiations of forward circulation through their tool until they are ready to cement. Both of the prior art devices have as a purpose the permanent disablement of reverse flow once the cementing operation is initiated. It is respectfully submitted that a structure permitting reverse flow after forward circulation has been initiated would clearly be contrary to the intended function and principle of operation of either reference device.

The examiner contends that it would have been obvious to use the check valves of *Maly et al* on the apparatus of *Murray et al* "so that the fluid entering the tubular would not go unchecked and allowed to flow both ways. It would only flow in when there was positive pressure on the valve and it would not flow out except through the secondary check valve."

It is respectfully asked why one would position pressure sensitive valves (such as disclosed in *Maly et al*) on a sliding sleeve valve where the sliding sleeve valve has the sole disclosed function of shifting axially in order to permanently close a fluid entry port?

At another point, the examiner contends "The collar containing the check valve in *Maly et al*, shown as (16), could replace the entire portion of the collar of *Murray et al*, shown at 24."

It is again respectfully asked why one would position a collar having pressure sensitive valves (such as disclosed in *Maly et al*) in a device intended to shift axially in order to permanently close a fluid entry port? It is also respectfully asked what one would do with the sliding sleeve 32 employed in the *Murray et al* assembly if the collar containing the check valve in *Maly et al* were used to replace the entire collar of *Murray et al*? It is respectfully noted that if the collar of *Maly et al* were used to completely replace the collar and sliding sleeve of *Murray et al*,

al, the resulting structure would be nothing more than the original *Maly et al* assembly. Such proposed combined structures do not provide response to applicants' Claim 1.

The examiner notes that it is known in the prior art that pressure equalization is needed in a tubular being lowered into the wellbore and that placing a check valve on an apparatus allows fluid to pressurize one side of the system. From this, the examiner contends "Therefore the motivation to combine the two references has been gleaned from the knowledge generally available to one of ordinary skill in the art. "

These basic concepts noted by the examiner, which are admittedly generally available to one of ordinary skill in the art, do not explain why it is obvious to combine the features of one single-function self-filling cementing collar with the features of another single-function self-filling cementing collar to produce a cementing collar as defined by applicants' Claim 1 having the multi-function ability to self-fill and resume self-filling after circulation has been performed? The case authority cited by the examiner is directly in point with applicants' contention that it is not obvious to combine the references in a manner that would anticipate applicants' Claim 1.

Applicants' again reassert the previously cited authority regarding the impropriety of the conclusions reached in combining the *Maly et al* and *Murray et al* references. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2143 - §2143.03 for decisions pertinent to each of these criteria.

"To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the

examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970).

In view of the foregoing argument and authority, it is respectfully submitted that all of applicants' claims, now presented for examination, are in condition for allowance and such action is earnestly solicited.

Respectfully submitted,



Carlos A. Torres
Reg. No. 24,264

Date: March 3, 2004
BROWNING BUSHMAN, P.C.
5718 Westheimer, Suite 1800
Houston, Texas 77057
Tel.: (713) 266-5593
Fax: (713) 266-5169